NC/QC/W-14/2018-19/BN-C1 Date: 26-09-2018

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Re-Construction of CC Drains at 7th main 11th cross Surroundings, 11th A cross road Bhuvaneshwarinagar in Ward No. 14, Bagalagunte}
Ref.: Material testing/W-14/QC/18-19,
Report Required for: Assistant Executive Engineer,
Dasarahalli Sub division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Technical Manager, KRIDL.

PHYSICAL TESTS ON CEMENT

Brand : ACC
Grade * : 53,
Type * : O.P.C

TABLE 1.1:

SL No	Name of Test	Test Results	Requirements as per IS 8112-1989
1	Initial setting time	**168 min**	Shall not be less than 30 min
2	Final setting time	**285 min**	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	**1.92 %**	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	**2.45 mm**	Shall not be more than 10 mm
5	Compressive strength a) 3 days (average of three results)	**28.58 N/Sq mm**	Shall not be less than 27 N/Sqmm

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NC/QC/W-14/2018-19/BN-PCC1 Date: 26-09-2018

1. TESTING OF COARSE AND FINE AGGREGATES:

Sub: Testing of Coarse and Fine aggregates to be used for bed concrete.
{Project*: Re-Construction of CC Drains at 7th main 11th cross Surroundings, 11th A cross road Bhuvaneshwarinagar in Ward No. 14, Bagalagunte}
Ref.: Material testing/W-14/QC/18-19,
Report Required for: Assistant Executive Engineer,
Dasarahalli Sub division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Technical Manager, KRIDL.

1. COARSE AGGRGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2007) % Passing	
	40 mm Sample	Single size	Graded
40mm	100.00	85-100	90 – 100
20mm	65.10	0 -20	30- 70
10mm	28.90	0 -5	10- 35
4.75mm	3.05	------	0- 5

2. FINE AGGREGATES TABLE - SIEVE ANALYSIS:

IS Sieve Size, mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -III	
04.75	100.00	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	96.45	60-95	75-100	85-100	
01.18	84.10	30-70	55-90	75-100	
600.mic	47.50	15-34	35-59	60-79	
300.mic	20.35	5-20	8-30	12-40	
150.mic	7.15	0-10	0-10	0-10	

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NC/QC/W-14/2018-19/BN-C2 Date: 03-10-2018

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Re-Construction of CC Drains at 7th main 11th cross Surroundings, 11th A cross road Bhuvaneshwarinagar in Ward No. 14, Bagalagunte}

Ref.: Material testing/W-14/QC/18-19,

Report Required for: Assistant Executive Engineer,
Dasarahalli Sub division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Technical Manager, KRIDL.

PHYSICAL TESTS ON CEMENT

Brand : ACC
Grade * : 53,
Type * : O.P.C

TABLE 1.1:

SL No	Name of Test	Test Results	Requirements as per IS 8112-1989
1	Initial setting time	**174 min**	Shall not be less than 30 min
2	Final setting time	**278 min**	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	**1.75 %**	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	**2.09 mm**	Shall not be more than 10 mm
5	Compressive strength a) 3 days (average of three results	**28.32 N/Sq mm**	Shall not be less than 27 N/Sqmm

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NC/QC/W-14/2018-19/BN-FA1 Date: 03-10-2018

1. TESTING OF FINE AGGREGATES :

Sub: Testing of Fine Aggregates.

{Project*: Re-Construction of CC Drains at 7th main 11th cross Surroundings, 11th A cross road Bhuvaneshwarinagar in Ward No. 14, Bagalagunte}

Ref.: Material testing/W-14/QC/18-19,

Report Required for: Assistant Executive Engineer,
Dasarahalli Sub division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Technical Manager, KRIDL.

TABLE - 1.1 : SIEVE ANALYSIS :

IS Sieve Size,mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing			Remarks
		Zone-I	Zone-II	Zone -II	
04.75	**98.10**	90-100	90-100	90-100	The Sample Conforms to Grading **Zone-II**
02.36	**85.30**	60-95	75-100	85-100	
01.18	**76.45**	30-70	55-90	75-100	
600. mic	**35.65**	15.34	35-59	60-79	
300.mic	**18.90**	5-20	8-30	12-40	
150.mic	**8.10**	0-10	0-10	0-10	

TABLE 1.2 ;

Sl No	Test Conducted	Sample	Results	**Requirements** as Per IS. Specification IS :383-1970 (Reaffirmed 2002)
1	Bulking of Sand	001	**17.68 %**	-----
2	Silt Content	----	**0.63 %**	Not more than 8%
3	Specific Gravity	----	**2.62**	-------

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NC/QC/W-14/2018-19/BN-CA1 Date: 03-10-2018

1. TESTING OF COARSE AGGREGATES (20 mm):

Sub: Testing of Construction Materials.

{Project*: Re-Construction of CC Drains at 7th main 11th cross Surroundings, 11th A cross road Bhuvaneshwarinagar in Ward No. 14, Bagalagunte}

Ref.: Material testing/W-14/QC/18-19,

Report Required for: Assistant Executive Engineer,
Dasarahalli Sub division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Technical Manager, KRIDL.

Table - 1.1 : SIEVE ANALYSIS :

IS Sieve Size, mm	Percentage passing	Requirements as per IS 383-1970 (Reaffirmed on 2002) % Passing	
	20 mm Sample	Single size	Graded
40 mm	100.00	100.00	100.00
20 mm	97.45	85-100	90 - 100
10 mm	45.10	0 - 20	25 - 55
4.75 mm	3.80	0 - 5	0 - 10

TABLE 1.2 :

SL No	Test conducted	Results	Requirements as per IS 383-1970 & Tests Conforms to IS 2386(Part I to IV) - 1963 (Reaffirmed on 2002)
1.	Flakiness Index	22.48 %	Not to exceed 25 %
2.	Crushing value	26.09 %	Not to exceed 45 % for concrete other than for wearing surfaces and 30% for concrete for wearing surfaces

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NC/QC/W-14/2018-19/BN-S1 Date: 03-10-2018

1. TEST REPORT ON REINFORCEMENT STEEL:

Sub: Testing of Reinforcement Steel of diameter 10 and 12 mm **TMT Steel.**

{Project*: Re-Construction of CC Drains at 7th main 11th cross Surroundings, 11th A cross road Bhuvaneshwarinagar in Ward No. 14, Bagalagunte}

Ref.: Material testing/W-14/QC/18-19,

Report Required for: Assistant Executive Engineer,
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BBMP, Bangalore.

Name of the Agency/Contractor*: Technical Manager, KRIDL.

TABLE – 1

SL No	Details	For 10 mm		For 12 mm	
		Test Results	Min Req. as per IS 1786-2008	Test Results	Min Req. as per IS 1786-2008
01	Observed diameter of bar	**10.0 mm**	10.0 mm	**12.0 mm**	12.0 mm
02	Observed Wt/m Length **Kg/m**	**0.623**	0.567	**0.872**	0.834
03	Proof stress/Yield stress, fy , **N/mm^2**	**548.0**	500.0	**552.0**	500.0
04	Bend/ Re bend Test	**Ok**	---	**Ok**	---
05	Percentage of Elongation, %	**20.60**	12.00	**19.40**	12.00
06	Ultimate Tensile Strength **N/mm^2**	**636.0**	545.0	**642.0**	545.0

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NC/QC/W-14/2018-19/BN-CB1 Date: 12-10-2018

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 07days Compressive Strength).
{Project*: Re-Construction of CC Drains at 7th main 11th cross Surroundings, 11th A cross road Bhuvaneshwarinagar in Ward No. 14, Bagalagunte}

Ref.: Material testing/W-14/QC/18-19,

Report Required for: Assistant Executive Engineer,
Dasarahalli Sub division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Technical Manager, KRIDL.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{25}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	05-10-18	12-10-18	07	22500	435	19.33	**19.85**
	002	"	"	"	"	450	20.00	
	003	"	"	"	"	455	20.22	

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NC/QC/W-14/2018-19/BN-CB2 Date: 16-10-2018

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 07days Compressive Strength).
{Project*: Re-Construction of CC Drains at 7th main 11th cross Surroundings, 11th A cross road Bhuvaneshwarinagar in Ward No. 14, Bagalagunte}
Ref.: Material testing/W-14/QC/18-19,
Report Required for: Assistant Executive Engineer,
Dasarahalli Sub division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Technical Manager, KRIDL.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{25}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	09-10-18	16-10-18	07	22500	445	19.78	**20.07**
	002	"	"	"	"	460	20.44	
	003	"	"	"	"	450	20.00	

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NC/QC/W-14/2018-19/BN-CB1a

Date: 02-11-2018

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 28days Compressive Strength).
{Project*: Re-Construction of CC Drains at 7th main 11th cross Surroundings, 11th A cross road Bhuvaneshwarinagar in Ward No. 14, Bagalagunte}

Ref.: Material testing/W-14/QC/18-19,

Report Required for: Assistant Executive Engineer,
Dasarahalli Sub division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Technical Manager, KRIDL.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{25}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	05-10-18	02-11-18	28	22500	595	26.44	**26.67**
	002	"	"	"	"	605	26.89	
	003	"	"	"	"	600	26.67	

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NC/QC/W-14/2018-19/BN-CB2a

Date: 06-11-2018

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 28days Compressive Strength).
{Project*: Re-Construction of CC Drains at 7th main 11th cross Surroundings, 11th A cross road Bhuvaneshwarinagar in Ward No. 14, Bagalagunte}

Ref.: Material testing/W-14/QC/18-19,

Report Required for: Assistant Executive Engineer,
Dasarahalli Sub division,
BBMP, Bangalore.

Name of the Agency/Contractor*: Technical Manager, KRIDL.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M_{25}

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm^2	Maximum Load in K.N	Compressive Strength (N/mm^2)	Avg. Value
1	001	09-10-18	06-11-18	28	22500	615	27.33	**27.41**
	002	"	"	"	"	610	27.11	
	003	"	"	"	"	625	27.78	

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NC/QC/W-14/2018-19/BN-G1 Date: 20-10-2018

TEST REPORT ON GRANULAR SUBBASE MIX
(GRADATION TEST)

Sub: To conduct tests on GSB (with close graded materials, Grade-II) mix.
{Project*: Re-Construction of CC Drains at 7th main 11th cross Surroundings, 11th A cross road Bhuvaneshwarinagar in Ward No. 14, Bagalagunte}
Ref.: Material testing/W-14/QC/18-19,
Report Required for: Assistant Executive Engineer,
Dasarahalli Sub division,
BBMP, Bangalore.
Name of the Agency/Contractor*: Technical Manager, KRIDL.

TEST RESULTS

1. **Gradation Test:**
TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
53.00	**100.00**	100
26.50	**98.10**	70-100
9.50	**75.30**	50-80
4.75	**59.05**	40-65
2.36	**36.30**	30-50
0.425	**14.50**	10-15
0.075	**4.05**	<5

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Date: 20-10-2018

TABLE 1.2

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)– 1963 (Reaffirmed on 2002) & Requirements as per IS:383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Water absorption, %	0.36 %	Not more than 2.0 %
2.	Liquid Limit, %	17.06	Not more than 25.0 %
3.	Plasticity Index, %	NP	Not more than 6.0 %
4.	Moisture Content, %	6.12	----------
5.	Aggregate Impact Value, %	24.78	Not more than 40.00 %

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